



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,458	02/27/2004	Makoto Ohhira	15115/107001	5178

7590 07/26/2005

Jonathan P. Osha
OSHA & MAY L.L.P.
1221 McKinney Street, Suite 2800
Houston, TX 77010

EXAMINER

VU, PHU

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,458

Applicant(s)

OHHIRA ET AL.

Examiner

Phu Vu

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 –4 and 6-11 are rejected under 35 U.S.C. 102(b) as anticipated by Atkins et al. US Patent No. 6285425.

Regarding claim 1, Atkins teaches a reflector disposed parallel to a predetermined plane (fig. 7 element 270), and having plural unit reflecting portions (fig. 7 element 242) each having a reflection face for reflecting incident light in a direction different from that of regular reflection light of said predetermined plane, wherein the distance between a first tangential plane abutting on a first reflection face arranged in an arbitrarily extracted first unit reflecting portion at a reference point arranged in an arbitrary position on said first reflection face, and a second tangential plane abutting on a second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflecting portion in parallel with said first tangential plane (see fig. 7).

The reference does not explicitly state the distance between the tangential planes is half or more of a coherent length of the incident light however the reference discloses a pitch length of .1 mm at most (see column 8 lines 25-26 "10 per mm"). Near the right side of the each reflector portion regions the tangential planes will almost be

Art Unit: 2871

horizontal thus the distance between the tangential planes will be significantly less since the point where both are horizontal the distance between the tangents will be zero.

Since the points are arbitrarily set and the a specific wavelength is not specified the distance between the tangential planes be roughly of close this value in magnitude which will be greater in magnitude than a coherent length of some value of wavelength of the light.

Regarding claim 2, Atkins teaches a reflector arranged on a face parallel to a predetermined plane, and having plural unit reflecting portions (fig. 7 element 242) each having a reflection face for reflecting incident light in a direction different from that of regular reflection light of said predetermined plane, wherein an average of the distance between a first tangential plane abutting on a first reflection face arranged in an arbitrarily extracted first unit reflecting portion at a reference point arranged in an arbitrary position on said first reflection face, and a second tangential plane abutting on a second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflecting portion in parallel with said first tangential plane is half or more of a coherent length of the incident light. The reference does not explicitly state the distance between the tangential planes is half or more of a coherent length of the incident light however the reference discloses a pitch length of .1 mm at most (see column 8 lines 25-26 "10 per mm"). Near the right side of the each reflector portion regions the tangential planes will almost be horizontal thus the distance between the tangential planes will be significantly less since the point where both are horizontal the distance between the tangents will be zero. Since the points are arbitrarily set and the a

specific wavelength is not specified the distance between the tangential planes be roughly of close this value in magnitude which will be greater in magnitude than a coherent length of some value of wavelength of the light.

Regarding claim 3, Atkins teaches reflector disposed parallel to a predetermined plane, and having plural unit reflecting portions each having a reflection face for reflecting incident light in a direction different from that of regular reflection light of said predetermined plane (see fig 7).

The limitation of frequency distribution is calculated by setting to a variable the distance between a first tangential plane abutting on a first reflection face arranged in an arbitrarily extracted first unit reflecting portion at a reference point arranged in an arbitrary position on said first reflection face, and a second tangential plane abutting on a second reflection face arranged in a second unit reflecting portion adjacent to said first unit reflecting portion in parallel with said first tangential plane, the distance for maximizing the frequency is half or more of a coherent length of the incident light does not appear to limit the device structurally since it is merely a calculation and the respective points are arbitrarily set at a range of frequencies or wavelengths of light. The reference does show a unit reflecting portion in parallel with a tangential plane, and the distance being the planes more than half of a coherent length of incident light as this value is arbitrary and dependent upon the light selected.

Regarding claim 4, the reference teaches reflector according to claim 3, wherein the distance between said first tangential plane and said second tangential plane is set to 80 micrometers or less. As previously stated since the placement of the points is

Art Unit: 2871

arbitrary points where the tangent is closest to vertical will have a distance between tangential planes to be maximal in this case 100 micrometers max (which is the distance between two selected points as stated in claim 1) however, points where the tangential is horizontal will be significantly less. Applicant states that the respective points are arbitrary therefore, this limitation will be met for the set of points where the tangential is close to horizontal (see fig. 7).

Regarding claim 6, the reference teaches the reflector according to claim 5, wherein said plural unit reflecting portions are arranged such that directions for maximizing the intensity of the reflection light reflected by said reflection face cross each other in a predetermined position. Since applicant does not specify the predetermined position the crossing position of the reference is considered the predetermined position and this limitation is met or any specific structure that this limitation implies this limitation is met as the applicant does not supply any structure associated the reflector of claim 3 is considered to meet this limitation as applicant does not indicate any structural difference between the two.

Regarding claim 7, The reflector according to claim 6, wherein said plural unit reflecting portions are arranged such that diffusion reflection lights reflected by said reflection face cross each other in a predetermined area. Since applicant does not specify the predetermined area the area in the reference is considered where diffusion reflection lights cross of the reference. Applicant does not provide any structural difference between this structure and the structure according to claim 3.

Regarding claim 8, the reflector according to claim 3, wherein said reflector has a curved shape, and said reference point is determined as one of a point at which a point orthogonally projected onto said predetermined plane is conformed to the center point of gravity of a projection figure caused when said unit reflecting portion is orthogonally projected onto said predetermined plane, a point at which a normal line vector calculated at one point on said reflection face is similarly conformed to an average vector of the normal line vector calculated at each point, and a point for maximizing the distance from a line segment connecting minimum and maximum points in the distance with respect to said predetermined plane on said reflection face to said reflection face. The reference point can be considered a point at which a point orthogonally projected onto said predetermined plane is conformed to the center point of gravity of a projection figure caused when said unit reflecting portion is orthogonally projected onto said predetermined plane thus (see fig. 7 and fig. 8 which shows another view of fig. 7).

Regarding claim 9, the reference teaches a display device having a reflection member and performing display by reflecting light incident from the exterior on the reflection member, wherein this reflection member is constructed by the reflector (see column 2 lines 44-46 and also see claim 4).

Regarding claim 10, than electronic apparatus characterized in that the display device according to claim 9 is used as a display (see column 2 lines 44-46 and also see claim 4)..

Regarding claim 11, the reference a light reflecting method for reflecting incident light in a direction different from the direction of regular reflection of a predetermined plane by using a reflector having plural unit reflecting portions disposed parallel to said predetermined plane (fig. 7 element 270), wherein an optical path length difference for maximizing frequency is set to a coherent length or more of said incident light when a frequency distribution having the optical path length difference of incident reflection light reflected on a pair of arbitrary adjacent unit reflecting portions as a variable is calculated. The reference does show a unit-reflecting portion in parallel with a tangential plane, and the distance being the planes more than half of a coherent length of incident light as this value is arbitrary and dependent upon the light selected. The reference does not explicitly state the distance between the tangential planes is half or more of a coherent length of the incident light however the reference discloses a pitch length of .1 mm at most (see column 8 lines 25-26 "10 per mm"). Near the right side of the each reflector portion regions the tangential planes will almost be horizontal thus the distance between the tangential planes will be significantly less since the point where both are horizontal the distance between the tangents will be zero. Since the points are arbitrarily set and the a specific wavelength is not specified the distance between the tangential planes be roughly of close this value in magnitude which will be greater in magnitude than a coherent length of some value of wavelength of the light.

Claim Rejections - 35 USC § 103

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atkins et al. US Patent No. 6285425.

Regarding claim 5, the reference teaches all the limitations of claim 5 except wherein said reflection face has a curved shape, and the average value of an angle formed by said predetermined plane and a plane perpendicular to an average vector of a normal line vector calculated at each point on said curved face ranges from 5 degrees or more to 15 degrees or less. The reference shows these angles to encompass a range that appears to be overlap the claimed range. The reference does not specify any specific angles however the references angles which correspond to alpha in the applicants specification being 5-15 degrees as in fig. 9 appear to include angles above and below the claimed range in addition to the claimed range (see fig. 7 angles made by the tangential to the reflectors 242 to the horizontal plane) and narrowing it can provide a narrow range reflection. Thus it would be obvious to one of ordinary skill in the art to apply a range of 5 degrees or more to 15 degrees or less limit reflection angles of the display. Moreover, The MPEP section 2144.05 [R-1] states In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Publication No. 2002/0159009. US Publication No. 2002/0149723.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562.

The examiner can normally be reached on 8AM-5PM M-F.

Art Unit: 2871

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu
Examiner
AU2871


ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800